

Demand and supply side support mechanisms for a market-based approach for clean cooking in displacement settings



Thursday, 20 October 2022



14:00-15:30 CEST
15:00-16:30 EAT



Federal Ministry
for Economic Cooperation
and Development



Deutsche Gesellschaft
für Internationale
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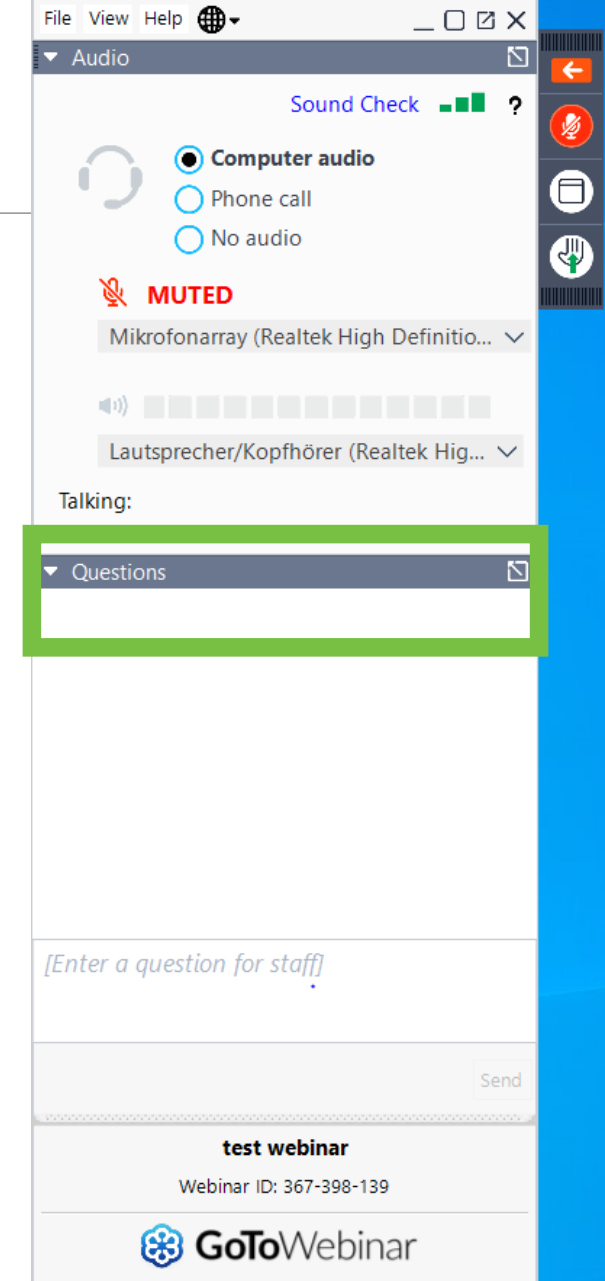
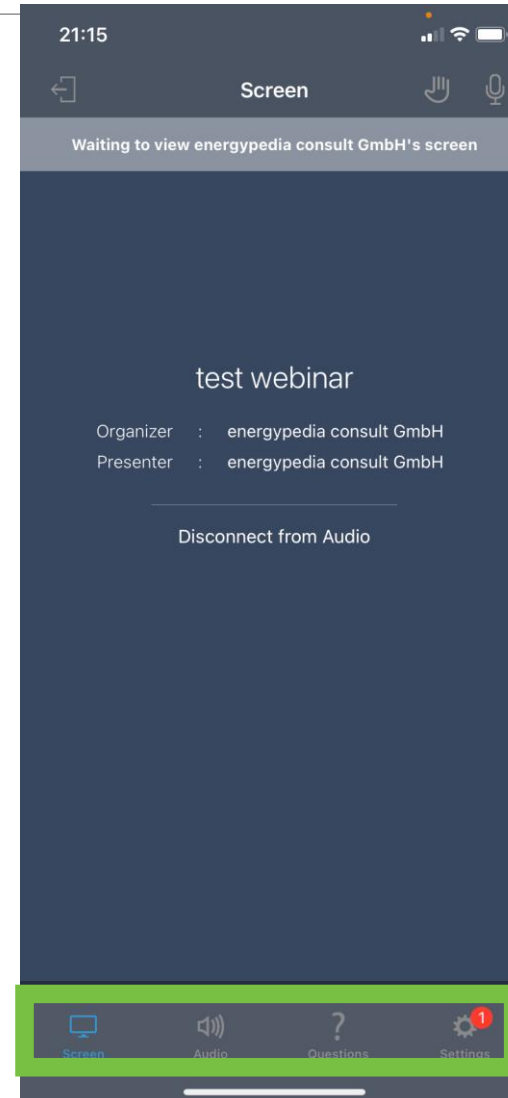
The UN Refugee Agency



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Housekeeping

Please send us your questions via the „**QUESTIONS**“ tab!



Agenda

| | Speakers |
|-----------------------------------|---|
| Overview on de-risking mechanisms | Colm Fay, Clean Cooking Alliance |
| Private sector inputs | Justin Miller, Sunken Limited (Kenya) Rebecca Apicha, International Lifeline Fund (Uganda) |
| End-user support mechanisms | Karlijn Groen, SNV |
| Supply side support mechanisms | Anaclet Ndahimana, Practical Action |

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Poll

Presenter



Colm Fay, CLEAN COOKING ALLIANCE

Colm Fay is the Senior Director of Market Strengthening at the Clean Cooking Alliance (CCA). He has expertise in enterprise scaling and partnership ecosystem development and has more than eight years of experience in international development including projects in Sub-Saharan Africa and Asia. Before joining CCA, he was the Energy Sector lead at the William Davidson Institute at the University of Michigan (WDI). There, he managed projects to identify enterprises developing innovative approaches to power generation and use and connect them with expertise, knowledge, and tools to develop commercially viable business models. Prior to WDI, he managed the launch and implementation of an innovation fund for enterprises serving low-income populations in sub-Saharan Africa supported by the United States Agency for International Development and the United Kingdom Department for International Development. He holds a Master of Business Administration degree and a Master of Science degree in natural resources, both from the University of Michigan. He earned his Bachelor of Arts (Mod.) in Information and Communications Technology from Trinity College Dublin, Ireland.



Clean Cooking Market Development

De-risking mechanisms for
displacement settings

October 20, 2022

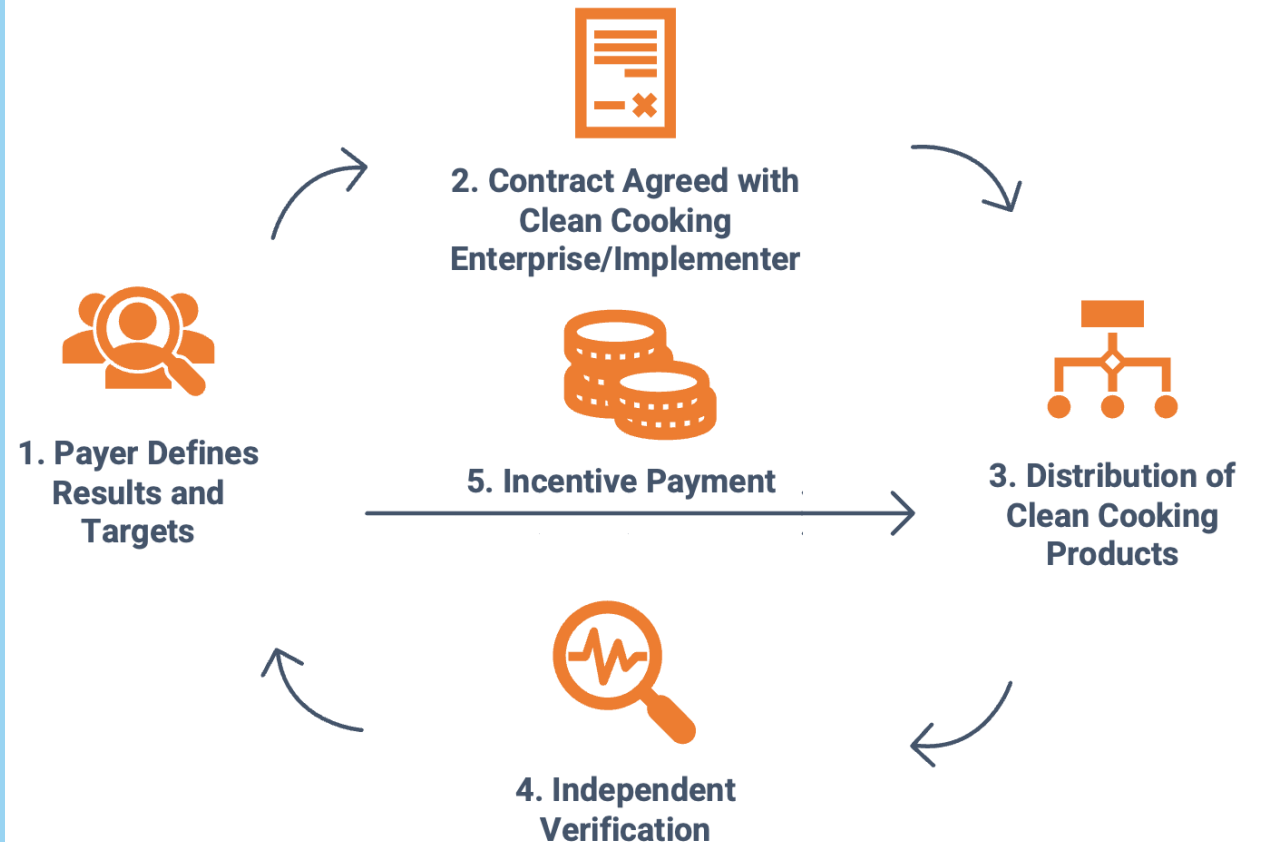
Results Based Financing

1



Results Based Financing is at the forefront of financing innovation in the clean cooking sector

- *Clear on 'What?' - significant effort invested in defining desired results and targets*
- *Flexible on 'How?' – implementers are free to innovate*
- *Examples: SEforALL Universal Energy Facility, World Bank Clean Cooking Fund*



Results Based Financing

Opportunities

- Subsidizes clean cooking distributors to build infrastructure in markets that may not be immediately profitable
- Distributors are incentivized to learn and find efficiencies to maximize outputs (and payments)
- Suitable for highly uncertain contexts
- Supports short term priorities and longer-term objectives

Risks

- High cost of monitoring and verifying results
- RBFs based on delivering outputs along can create perverse incentives
- Clean cooking distributors may not have the financial or technical capacity to build inventory and deliver outputs
- Without long-term demand distributors may exit when financing is withdrawn



Clean Cooking RBFs

Key Design Principles Report

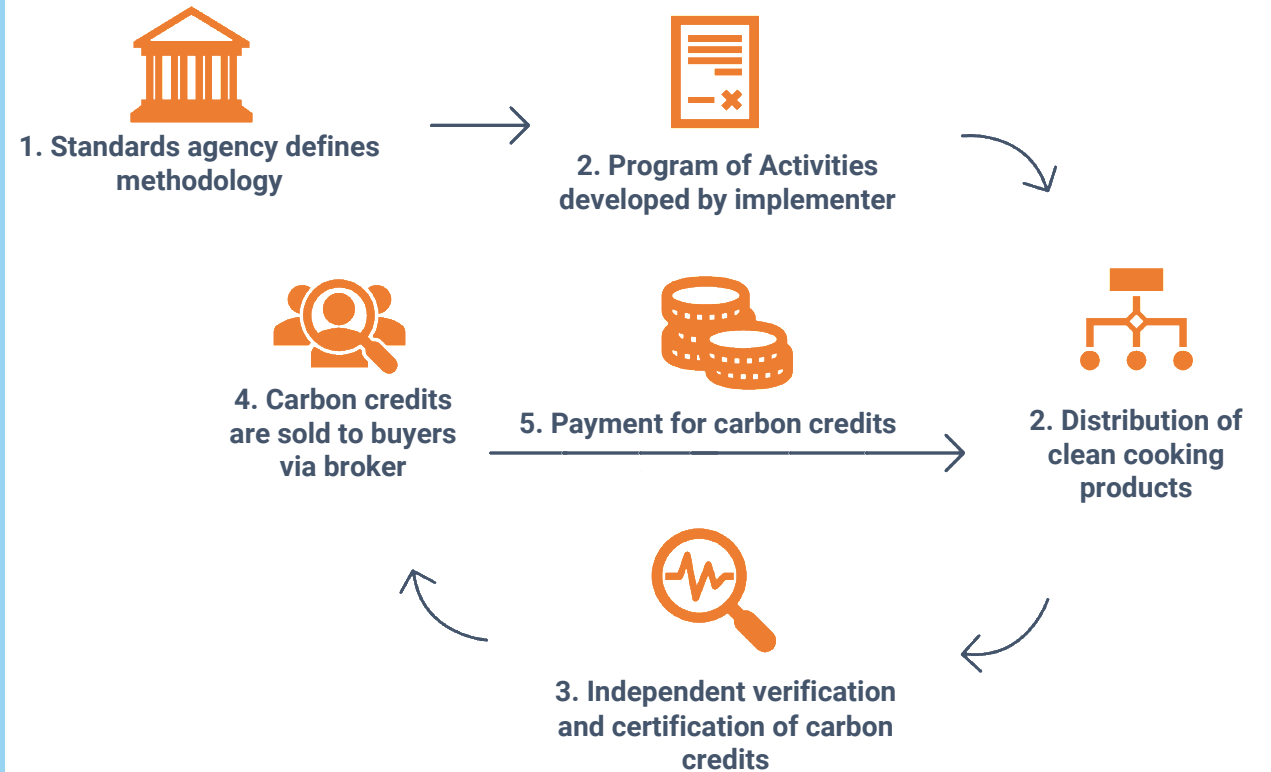
Carbon Finance

2



Carbon financing in clean cooking increased 21 times from 2017 - 2020

- *Carbon credit is a fungible unit of impact*
- *Methodologies define how to calculate and verify credits*
- *Credits sold on open market*



Carbon financing

Opportunities

- Significant amount of financing with current high prices of carbon credits
- When used to subsidize prices may directly increase demand for clean cooking
- Modern energy cooking solutions provide low-cost real-time usage data

Risks

- Transaction costs are high especially for smaller enterprises and distributors
- Lack of working capital to pre-finance carbon revenues that may not be recognized for several years
- Verification is a costly manual process for non-connected clean cooking solutions

Grants & Technical Assistance

3



Grants and Technical Assistance can help companies enter new markets

- *Build new capabilities*
- *Develop new infrastructure*
- *Develop new products for specific market needs*



Grants and Technical Assistance

Opportunities

- Simple administration
- Can be used to support a wide range of activities
- Can support activities that don't directly generate revenue for the enterprise that might otherwise be difficult to fund

Risks

- Can be designed around what donors/funders want rather than what is needed by the company or target market
- Not linked directly to specific outputs or outcomes
- Cost of reporting and administration can be high for enterprises and funders alike

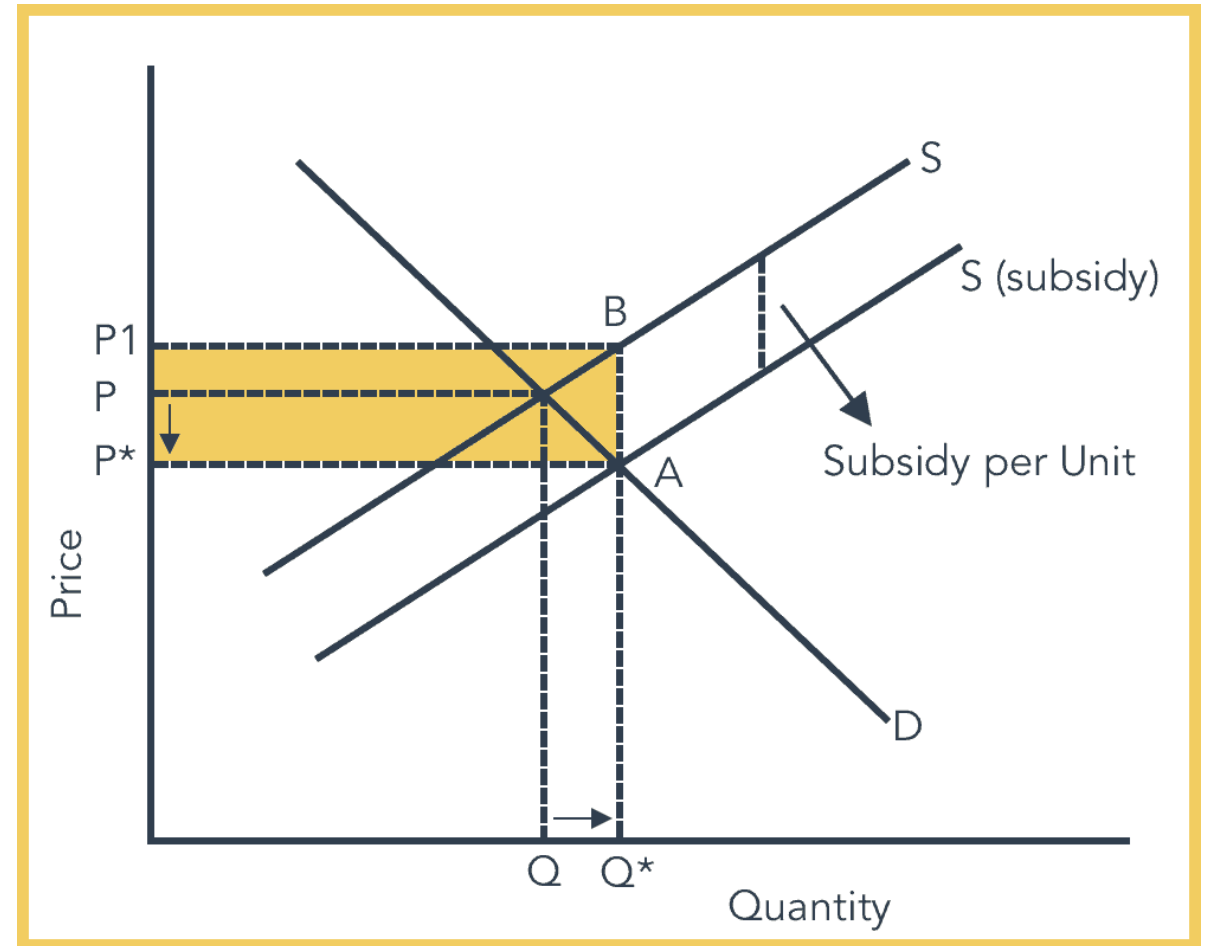
Demand Side Subsidies

4



End-user subsidies

- *Directly address affordability gap – reduce price to increase demand*
- *Direct cash transfers, vouchers, product price decreases*
- *Can be up to 100% discount (free distribution)*



Demand Side Subsidies

Opportunities

- Provides access to clean technologies for low-income populations
- Can exist alongside traditional retail models that serve higher income consumers
- Access to clean cooking via subsidy can change behaviors and build demand
- Mechanisms such as vouchers provide consumers with agency and choice

Risks

- Subsidies may benefit high-income households without precise targeting
- Willingness to pay may be reduced and market dynamics distorted
- Technologies and fuels may 'leak' into and distort adjacent markets
- Lower value is placed on clean cooking solutions especially when purpose of subsidy isn't clear



The Clean Cooking Alliance works with a global network of partners to build an inclusive industry that makes clean cooking accessible to the three billion people who live each day without it. Established in 2010, CCA is driving consumer demand, mobilizing investment to build a pipeline of scalable businesses, and fostering an enabling environment that allows the ecosystem to thrive.

Learn more at cleancooking.org



- Video Input -

Presenter



Karlijn Groen, SNV

Karlijn Groen is Project Advisor for the EnDev Market Based Energy Access project implemented in Kakuma refugee camp and the Piloting Electric Pressure Cookers in Kalobeyei project in Kalobeyei integrated settlement. Before joining SNV she worked as a Sustainable Finance Analyst for FMO – the Dutch Development bank. She holds an Advanced Masters degree in International Development from Radboud University, a MSc in Global Business & Sustainability from the Rotterdam School of Management, and a BA in International Relations from the University of Groningen.

October 2022

End-user support mechanisms for clean cooking in displacement settings

Case study Kakuma refugee camp & Kalobeyei integrated settlement

Speaker: Karlijn Groen (SNV)



Background

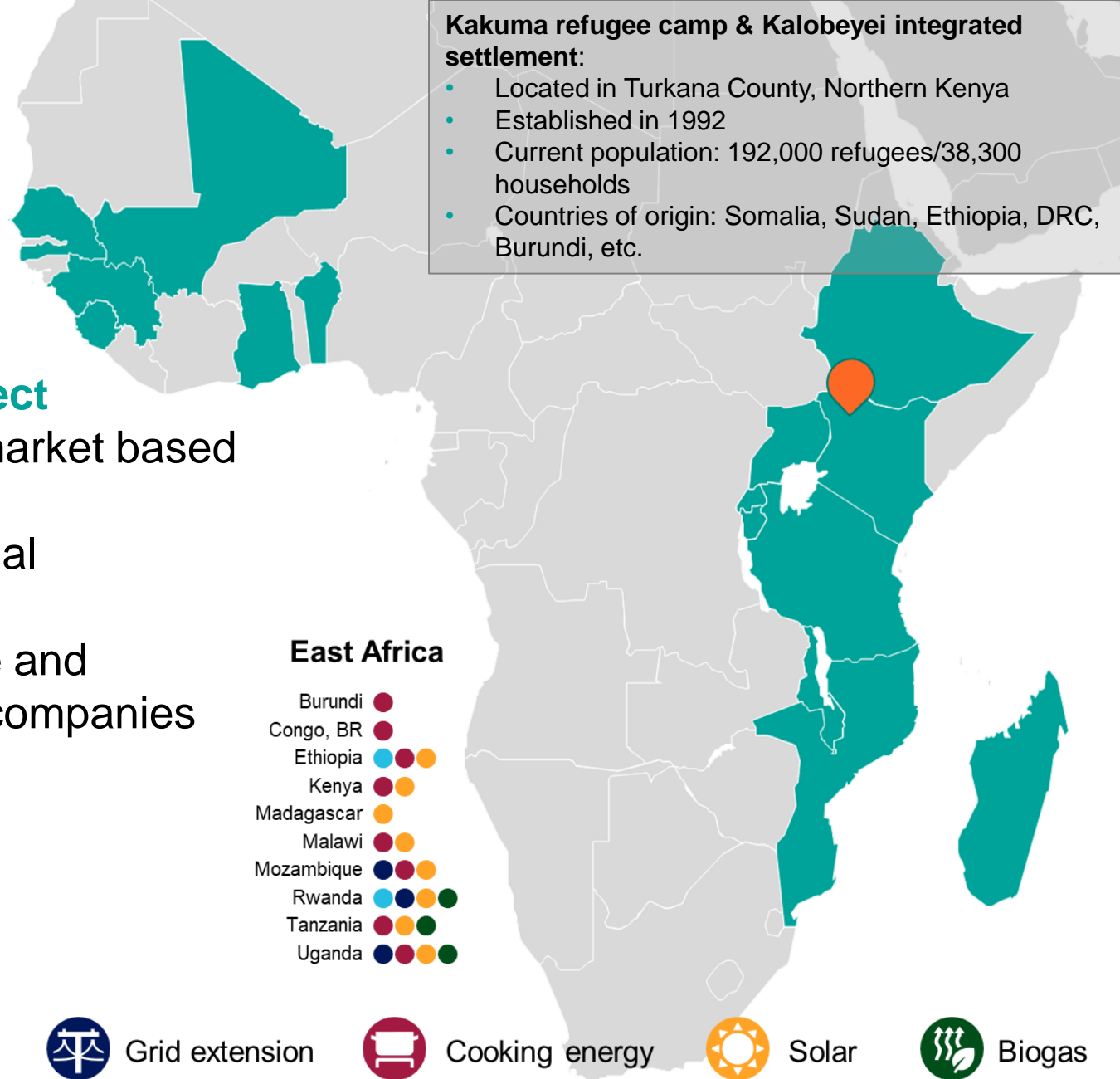
Energising Development programme in Kenya

EnDev Refugees: Market based Energy Access (MBEA) II Project

- Promotion of solar & cookstoves through a market based approach for
 - Households, Microbusinesses and social institutions
 - Through providing technical assistance and financial facilitation to solar and stove companies and community sensitization

Kakuma refugee camp & Kalobeyei integrated settlement:

- Located in Turkana County, Northern Kenya
- Established in 1992
- Current population: 192,000 refugees/38,300 households
- Countries of origin: Somalia, Sudan, Ethiopia, DRC, Burundi, etc.



EnDev Innovation Window: Piloting Electric Pressure Cookers in Kalobeyei (PEPCI-K)

Tests the use of Electric Pressure Cookers (EPCs) with 100 refugee and host community households and businesses connected to the solar mini-grid system in Kalobeyei through a market-based approach

- The pilot tests EPCs with 20 end-users & commercially distributes 80 units using **various payment models** through a private sector company
- Collects data on electricity consumption and end-user experience
- Payment model design informed by **research on access to financial services and income levels**



© Renewvia

Kalobeyei Integrated Settlement, Kenya

- In Kakuma refugee camp (40.000 residents)
- Cook with firewood and charcoal
- **Has a 541 KW (120 kWh storage) solar mini-grid** which can connect +/- 3000 customers



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Access to Financial services

| | | Savings & payments | Credit services | Negotiable payment plans | |
|--------------|---|--------------------|-----------------|--------------------------|--|
| Banks | KCB, Equity bank | | | | <p>Informally organised saving groups are primary providers for access to finance to host and refugee community</p> <ul style="list-style-type: none"> Formal credit services either not accessible for refugee ID-holders or require collateral/transaction history Low literacy levels required to fill bank forms Mobile money providers limit usage to 3 months for refugee ID-holders |
| SACCOs | Various | | | | |
| Mobile money | Safaricom, AIRTEL | | | | |
| Chamas/ VSLA | Various self-organised/ supported by agencies | | | | |
| | | | | | <div>Yes</div> <div>Limited</div> <div>No</div> |

End user payment models in Kakuma&Kalobeyei

- There are various payment models that can be applied to the distribution of cookstoves
- Cash-and-carry and PAYG models are currently widely applied in while the fee-for-service model is upcoming
- Asset financing or utility-led financing has not been deployed as far known

| Payment model | Prevalence in Kakuma&Kalobeyei? |
|-----------------------|---|
| Cash & Carry | Commonly applied to stoves and solar |
| PAYGO | Applied to solar (stoves only in bundle or applied on case by case basis) |
| Fee for service | Recently introduced for solar (payment per kWh) |
| Asset financing | Not prevalent |
| Utility-led financing | Not (yet) applied by mini-grid operators |

Income sources and levels

Income sources and levels vary heavily across host and refugee communities

- Main source of income is cash-based assistance and in-kind donations provided by UNHCR and WFP
- Other sources of income include (incentive) salaries from employment, business earnings, remittances, and/or other grants
- Average monthly income varies from **€144** in Kakuma town to **€55** in Kakuma sub-camps, Kalobeyei town and settlement (IFC, 2022)



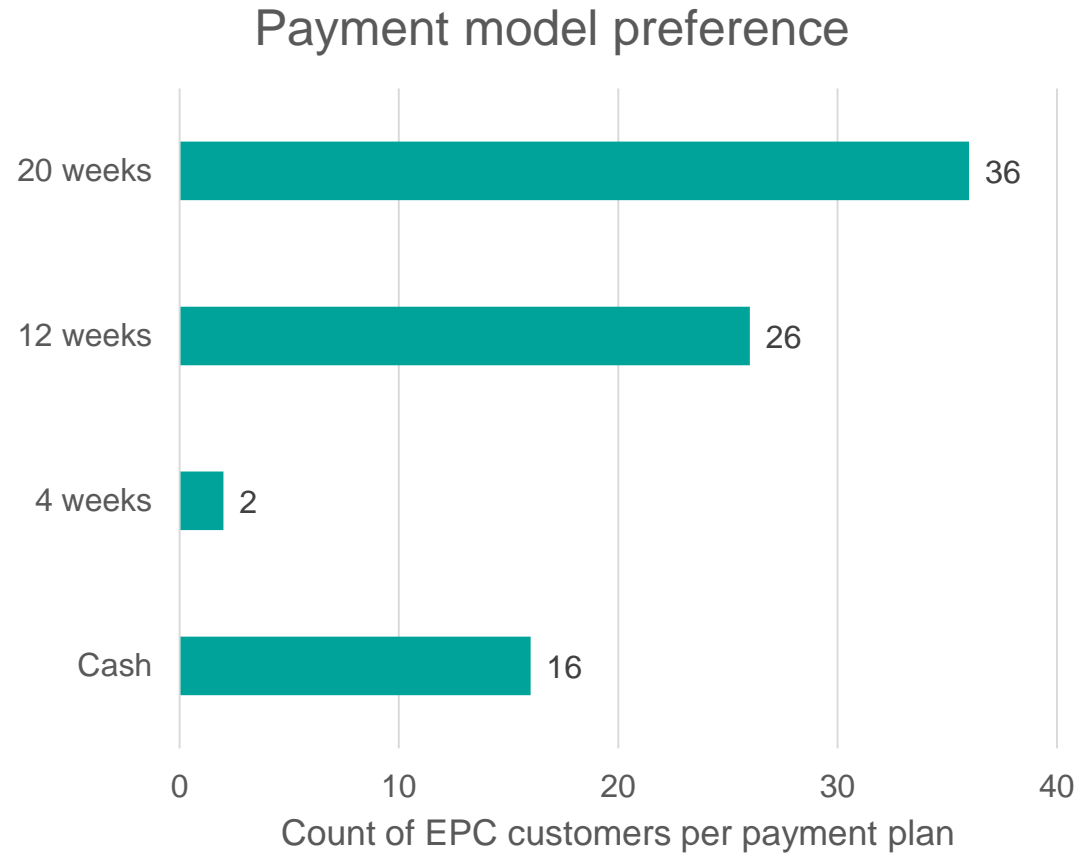
Testing payment models for EPCs

| Payment model | Repayment time in Weeks | Deposit | Weekly payment | Total |
|-----------------------|-------------------------|------------|----------------|------------|
| <i>Cash and Carry</i> | | | | €80 |
| <i>Instalments</i> | 4 | €42 | €10,50 | €84 |
| <i>Instalments</i> | 12 | €25 | €5,00 | €84 |
| <i>Instalments</i> | 20 | €13 | €3,60 | €85 |

Converted from KES



EPC payment model preferences and performance



- 80 units sold between May-October 2022
- Preference for 20 week and 12 week plan
- Current repayment status show *high unpaid* balances among 20 and 12-week payment plan customers*
- EPC size not found suitable for commercial use, hence limits uptake among SMEs

**Detailed analysis payment model performance in progress*

Key takeaways

- **Informally organised saving groups can play a key enabling role to drive access to high tier cook stoves**
 - Requires targeted sensitization approach to VSLA/Chamas on the benefits and opportunities for clean cooking to enhance uptake among their members
- **Long repayment periods are key to stimulate uptake high tier cooking solutions**
 - But longer time does increase default risks
 - Need for sound background checks on financial ability to pay, guarantors and repayment systems and procedures

Upcoming: Key results and learnings E-cooking pilot report

Karlijn Groen
Project Advisor SNV
Karlijngroen@snv.org

Presenter



Ndahimana Anaclet, Practical Action

Mr. Ndahimana Anaclet is a senior Renewable Energy Expert, Today Thematic Lead Energy and agriculture at Practical Action Rwanda (with Program management and Business Development responsibilities). He has responsibilities to steer the Renewable Energy for Refugees Project(RE4R II:2022-2026). In addition, he also has an oversight over the climate resilient Agriculture Project (CRF: 2022-2024).

Anaclet Ndahimana has more than 19 years professional experience developing and managing programmes focused on Renewable Energy, this through the private sector engagement and creating an enabling environment for sustainable energy market development.

PRACTICAL ACTION

Rwanda

Renewable Energy for
Refugees (RE4R) Project.

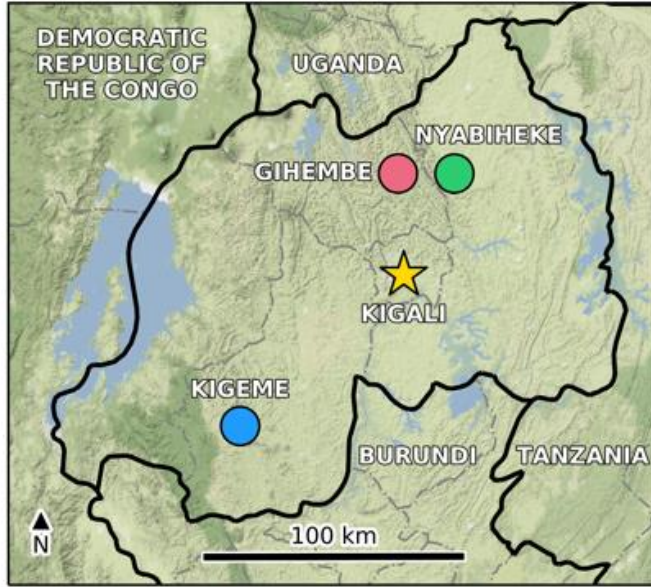
“Renewable biomass solutions
for household cooking”

By: Ndahimana Anaclet
Energy Lead

Practical
ACTION



The Renewable Energy for Refugees (RE4R)









- Partnership **between Practical Action and UNHCR**, funded by the **IKEA Foundation**. The Project started in 2017 and ended in June 2022
- Delivering market-based renewable energy investments in humanitarian settings, working directly with refugees and host communities
- Working in:
 - Urban settings in Irbid, Jordan
 - Camp settings in **Gihembe, Kigeme and Nyabiheke camps in Rwanda**

**Practical
ACTION**



APPROACH AND INTERVENTIONS

- Providing Total Energy Access (Households, Livelihoods, Communities)
- Strengthening and supporting markets
- Promoting economic activity for refugees and host communities
- Fostering systems change

| | Rwanda |
|--------------------|---|
| Households | <div> Renewable biomass cooking technologies</div> <div> Solar home systems</div> |
| Livelihoods | <div> Productive uses of energy</div> <div> Solar systems for small enterprises</div> |
| Communities | <div> Camp-wide solar street lighting</div> <div> Solar mini-grid for institutions and community facilities</div> |

Country Context- Clean cooking

Highlights

- There are policies targeting reduced biomass usage, but little progress has been made. Biomass is still the main usage, with little penetration of alternatives so far.
- Some reduction of biomass, but a faster reduction needed to achieve 42% by 2024 (Biomass Energy Strategy 2018-2030).
- A mix of alternative fuels are needed to replace biomass, e.g. a combination of LPG, pellets, briquettes, green charcoal, biogas and electricity. Targeting more efficient stove, to reduce costs and health impact.

Refugee camp settings:

- In 2017, The Government resolved to gradually ban the use of firewood as source of cooking fuel in refugee camps to reduce rapid deforestation.
- Three stone fires and mud stoves were the most used in the three refugee camps in Rwanda, representing 35% and 42% of primary cook stoves, respectively

The solution- approach

The intervention aim was to reduce reliance and expenditure on traditional fuels (firewood) and traditional (three-stone) stoves. Through market development in refugee and host communities, by engaging with the private sector actors to introduce sustainable biomass fuel and clean fuels and improved cook stoves. This through strengthening the demand and supply.

Intervention II –Implementation Scope (Count):

| Focus Area | Rationale |
|--|--|
| DEMAND: Create market demand in refugee and host communities for sustainable biomass fuel and improved cook stoves, through awareness raising, education, community engagement and other market activation activities; Behavior change communication. | <ul style="list-style-type: none"> • The intervention undertook activities to understand and create demand • Successful transition required through supporting activities to promote uptake and usage of alternative cooking solutions |
| SUPPLY: Working with private sector suppliers to strengthen the market for sustainable biomass fuel (and potentially stoves) in the camps and host communities and engage with refugees | <ul style="list-style-type: none"> • Engagement with private sector suppliers focused on addressing the barriers and enablers associated to accessing the market in and around the camps • This involved tailored technical and financial support to facilitate supplier access to the market and building capacity for long-term, sustainable operations. |

Private sector engagement and facilitation

- RE4R's private sector collaboration was the development of tailored facilitation strategies for each supplier/ private sector actor.
- First engagements through:
 - Informing local suppliers of opportunities
 - Sharing data and intervention objectives via requests for proposals
 - Suppliers used information to design proposals (Including suitable delivery model) to strengthen the market. (Need to mention donor constraints - no fossil fuel (LPG), must be sustainable, route to Tier 4 standard)
- This approach aimed to provide just enough support to allow suppliers to establish their business models and de-risk key barriers, whilst stimulating them to grow on their own and build towards long term business viability.
- This process was very different to a standard procurement model and required PA to develop a specific facilitation strategy and funding structure for each individual partner's needs
- The success of this also relied on close collaboration between PA and suppliers in the course of implementation, also to adapt to changes, improve business models resulting in strengthened local energy markets.

Delivery model eligible for financial support

Any of the following example elements of applicant delivery models was considered eligible for financial support:

- Market activation, for example awareness creation, energy literacy and behavior change communication.
- Last mile distribution, for example including de-risking support for companies to establish outlets in camps and/or host communities.
- Reducing financial barriers for customers to access energy services and products, which may include delivery models incorporating micro-financing or alternative financing mechanisms.
- Reducing barriers to access the camps, for example logistics, skills training, exhibitions etc.
- Establishing systems for after sales support for customers, including customer training, feedback and product improvement.
- Entrepreneurial capacity building and/or mentoring for camp and host community based last mile entrepreneurs.
- Expansion of delivery capacity relating to production stoves/fuel capacity and feedstock
- Improving the performance of cooking solutions, including market research, testing, product design and development, training and capacity building.

Private sector investments co-sharing long term gains- sustainability

- Targeted investments with private sector suppliers have resulted in increased production capacity and reduced unit costs for stoves and fuel
- Sustained improvements in customer management and the provision of after-sales support
- Capacity has been strengthened within the camps for employees and community groups, and the knowledge, skills and employment opportunities gained will extend beyond the life of the project
- Private sector suppliers have expressed their commitment to continue their operations in refugee camps, as they see the value from a market perspective, as well as a social enterprise perspective

INTERVENTION II (CLEAN COOKING)

- Partnered with ECOGREEN and URUMURI
- Both companies supported to establish distribution networks in the refugee camps and host community
- Both companies supported to expand their stoves and pellets production lines

4,553 stoves sold+ pellets in refugee camps and host community

Uptake → Usage → Improvements to Quality of Life



“The biggest change in my life and my household I have experienced since becoming a clean cooking technology customer is that life has changed in terms of saving. Now I pay less in purchasing pellets compared to how much I used to pay in wood and charcoal.” Male, 24, Nyabiheke

Awareness raising/ Behaviour change communications (General)

Initiate/start market activation activities demonstration, and cost benefit on clean cooking products vs non clean cooking

Through:

- Mass outreach campaign
- Radio drama, spots and sketch
- Posters and banners



Distribution network

- Refugee camps access
- Training of sales agents and mobilisers (Refugees and host community members)
- Construction of selling points for each camp
- Customer Relationship Management (CRM) System establishment

**Practical
ACTION**



Stoves and pellets production

- Trainings for persons in charge of manufacture and maintenance of improved cooking stoves
- Route to tier 4- Capacity building and testing/ Certification with Rwanda Standard Board (RSB)
- Development and installation of pellet production line
- Development and installation of stove production line



**Thank
YOU**

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Poll



Q&A

Thank you

- **Feedback:** info@energypedia.info
- **Webinar documentation:**
https://energypedia.info/wiki/Webinar_on_Cooking_Energy_in_Displacement_Settings